What is Claimed:

1. A substrate for use in is a data storage system, comprising:

at least one plastic or plastic composite material;

said plastic or plastic composite material exhibiting a modulus of about 350 kpsi or greater.

2. The substrate of claim 1 wherein said plastic or plastic composite material exhibits a modulus in the range of about 400 to 3,000 kpsi.

3. The substrate of claim 1 wherein said plastic or plastic composite material is selected from: polysulfone (PSU), polyethersulfone (PES), polyetherimide (PEI), polyphenylsulfide (PPS), polyphthalamide (PPA), liquid crystal polymer (LCP), polyetheretherketone (PEEK), polycarbonate (PCB) and any combinations thereof.

4. The substrate of claim 1 wherein said plastic or plastic composite material further includes a filler such as a damping agent or a reinforcing agent.

5. The substrate of claim 4 wherein said reinforcing agent is selected from carbon fibers, glass fibers, mineral particles, and any combinations thereof;

6. The substrate of claim 4 wherein said damping agent is selected from elastomeric materials.

7. The substrate of claim 4 wherein the filler has a concentration in the range of about 5 to 65 weight %.

8. The substrate of claim 1 where said one or more plastic or plastic composite materials

comprises two or more layers of said materials and any combination thereof.

9. The substrate of claim 1 further comprising:
said plastic composite material forming a core layer; and
said plastic material forming one or more skin layers formed atop said core layer.

10. The substrate of claim 9 wherein said core layer includes a damping agent and/or a reinforcing agent dispersed in said core layer.

11. The substrate of claim 1 wherein said substrate is formatted with servo control patterns.

12. A disk including the substrate of claim 1 and further comprising:
a MO or MR layer structure; and
a carbon overcoat formed atop said MO or MR layer structure.

13. The disk of claim 12 further comprising:
a read/write head;
an actuator for moving said read/write head; and
a motor for rotating said disk.

14. A substrate for use in is a data storage system, comprising:
at least one core layer made of a plastic or plastic composite material; and
at least one skin layer made of a plastic or plastic composite material , and formed atop at least one surface of said core layer, wherein at least one of said core or skin layers exhibit a modulus of about 350 kpsi or greater.

~~15. The substrate of claim 14 wherein said plastic or plastic composite material is~~

selected from: polysulfone (PSU), polyethersulfone (PES), polyetherimide (PEI), polyphenylsulfide (PPS), polyphthalamide (PPA), liquid crystal polymer (LCP), polyetheretherketone (PEEK), polycarbonate and any combinations thereof.

16. The substrate of claim 14 wherein said plastic or plastic composite material further includes a filler such as a damping agent or a reinforcing agent and wherein the filler has a concentration in the range of about 5 to 65 weight %.

17. The substrate of claim 16 wherein said reinforcing agent is selected from carbon fibers, glass fibers, mineral particles, and any combinations thereof;

18. The substrate of claim 16 wherein said damping agent is selected from elastomeric materials.

19. An apparatus, comprising:

a disk drive spindle motor; and

at least one data storage disk mounted on said disk drive spindle having means for exhibiting a modulus of about 350 kpsi or greater.

20. The apparatus of claim 19 further including means for strengthening and/or damping energy that the apparatus is subjected to.